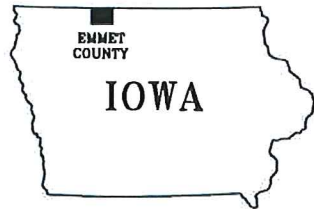


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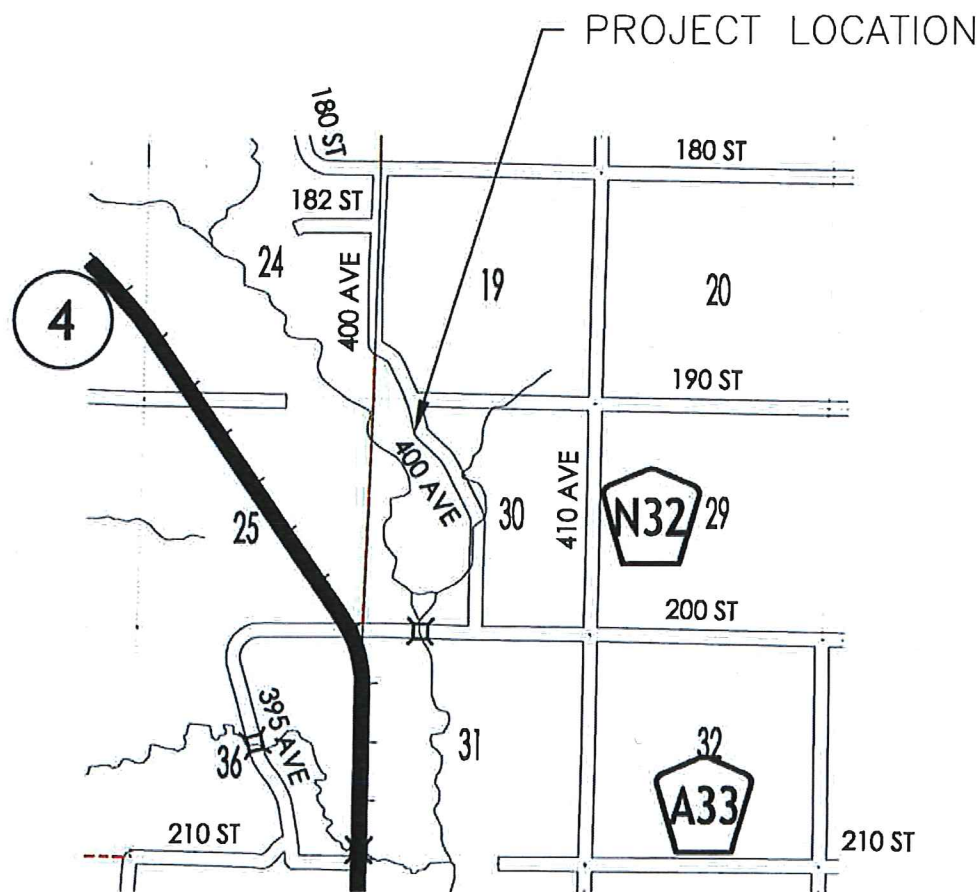


CREP WETLAND PROJECT

SITE EMM993330B

EMMET COUNTY, IOWA

NW 1/4, SEC-30, T-99-N, R-33-W



PREPARED FOR:

IOWA DEPARTMENT OF AGRICULTURE AND LAND STEWARDSHIP
HENRY A. WALLACE BUILDING
DES MOINES, IOWA 50319

VERTICAL CONTROL

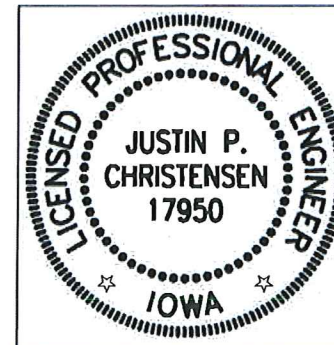
THE ELEVATIONS ON THIS PLAN ARE BASED ON THE NORTH
AMERICAN VERTICAL DATUM OF 1988 (NAVD)

CIVIL ENGINEERS/SURVEYORS

DGR ENGINEERING
1302 SOUTH UNION STREET
ROCK RAPIDS, IOWA 51246
PHONE NO. (712) 473-2531
FAX NO. (712) 472-2710

SHEET INDEX

C.01	TITLE SHEET
C.02	SITE PLAN/GENERAL INFORMATION
C.03	STRUCTURE PLAN/PROFILE
C.04	SHEET PILE DETAILS
C.05	DETAILS
C.06	DETAILS



I HEREBY CERTIFY THAT THIS ENGINEERING DOCUMENT WAS
PREPARED BY ME OR UNDER MY DIRECT PERSONAL
SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL
ENGINEER UNDER THE LAWS OF THE STATE OF IOWA.

DATE: 3/18/16
JUSTIN P. CHRISTENSEN, P.E. LICENSE NO. 17950

MY LICENSE RENEWAL DATE IS DECEMBER 31, 2017

PAGES OR SHEETS COVERED BY THIS SEAL: ALL

REV	DATE	DESCRIPTION



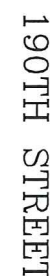
Project Manager: JPC
Designer: JPC
Project Number: 363115
Phone: (712) 472-2531

CREP WETLAND
EMMET COUNTY, IOWA

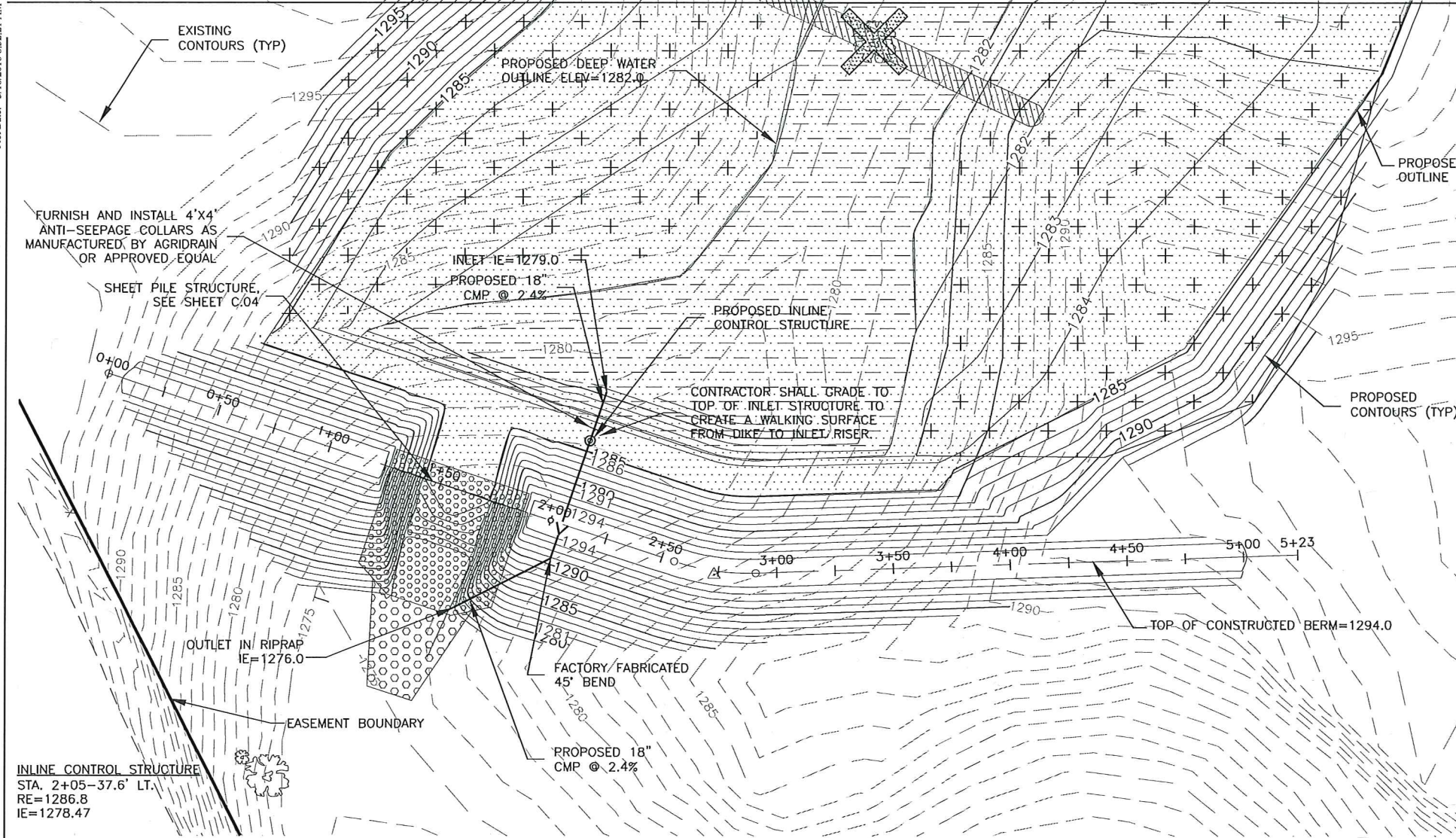
TITLE SHEET

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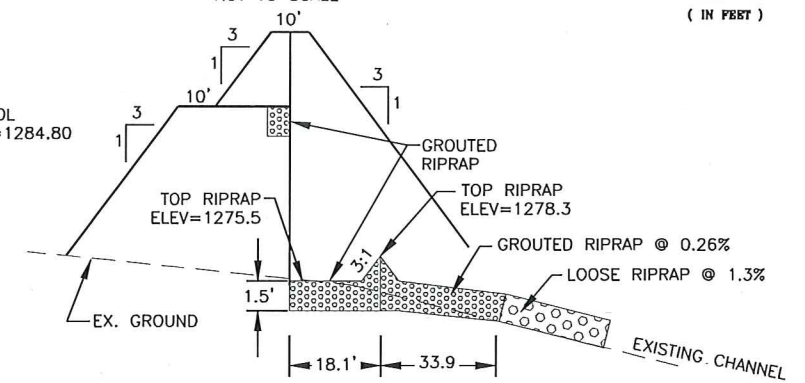
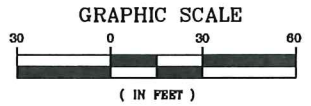


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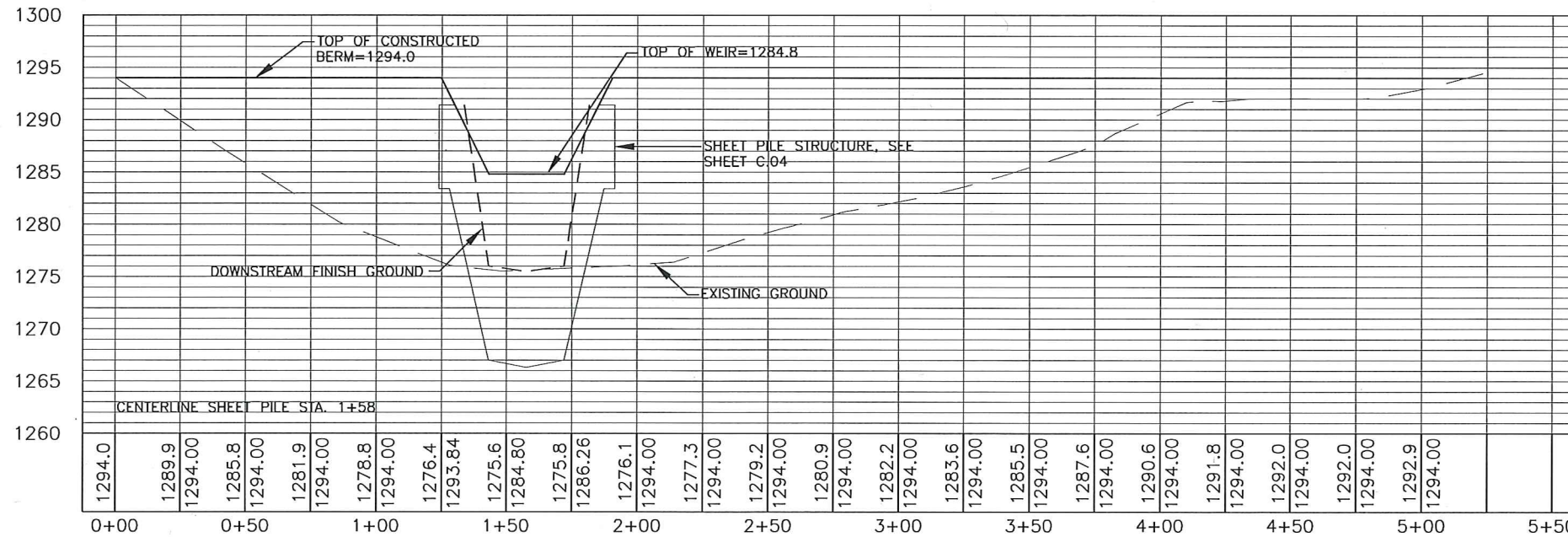
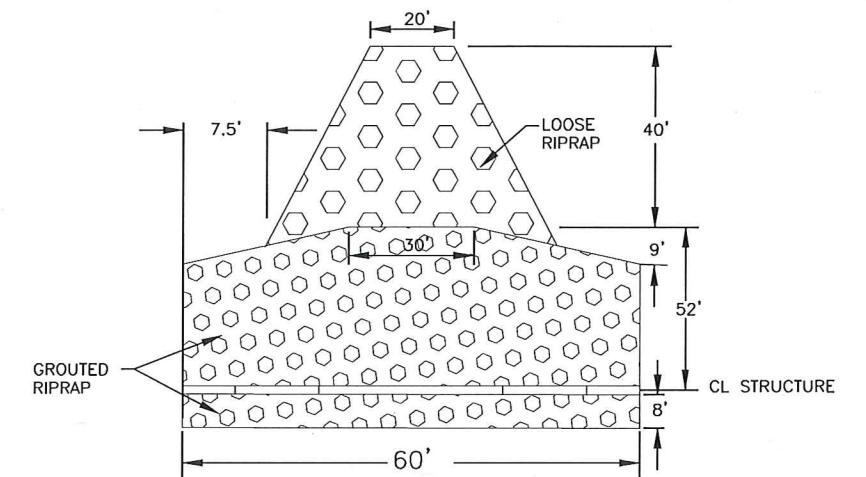
STRUCTURE CROSS SECTION

@ CL STRUCTURE
NOT TO SCALE



RIPRAP PLAN

NOT TO SCALE

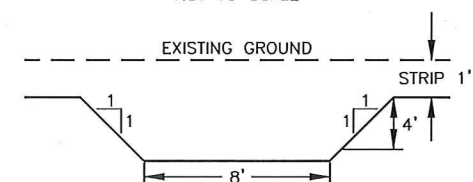


CORE TRENCH CONSTRUCTION NOTES

1. CONSTRUCT CORE TRENCH ALONG APPROXIMATE CENTERLINE OF FILL
2. STRIP 6" VEGETATION BENEATH EMBANKMENT
3. STRIP 6" TOP SOIL BENEATH EMBANKMENT
4. EXCAVATE 4 FT CORE TRENCH PER DETAIL AND/OR UNTIL SUITABLE MATERIAL IS REACHED
5. EXTEND INTO AND UP SIDE SLOPES TO NORMAL POOL LEVEL
6. WIDTH - MINIMUM 8' AT BASE
7. SIDE SLOPES NOT STEEPER THAN 1:1
8. BACK FILL WITH IMPERVIOUS MATERIAL
9. CORE TRENCH ENDS AT STATION 4+25

CORE TRENCH DETAIL

NOT TO SCALE



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Designer: JPC
Project Number: 363115
Phone: (712) 472-2531

CREP WETLAND
EMMET COUNTY, IOWA

STRUCTURE PLAN & PROFILE

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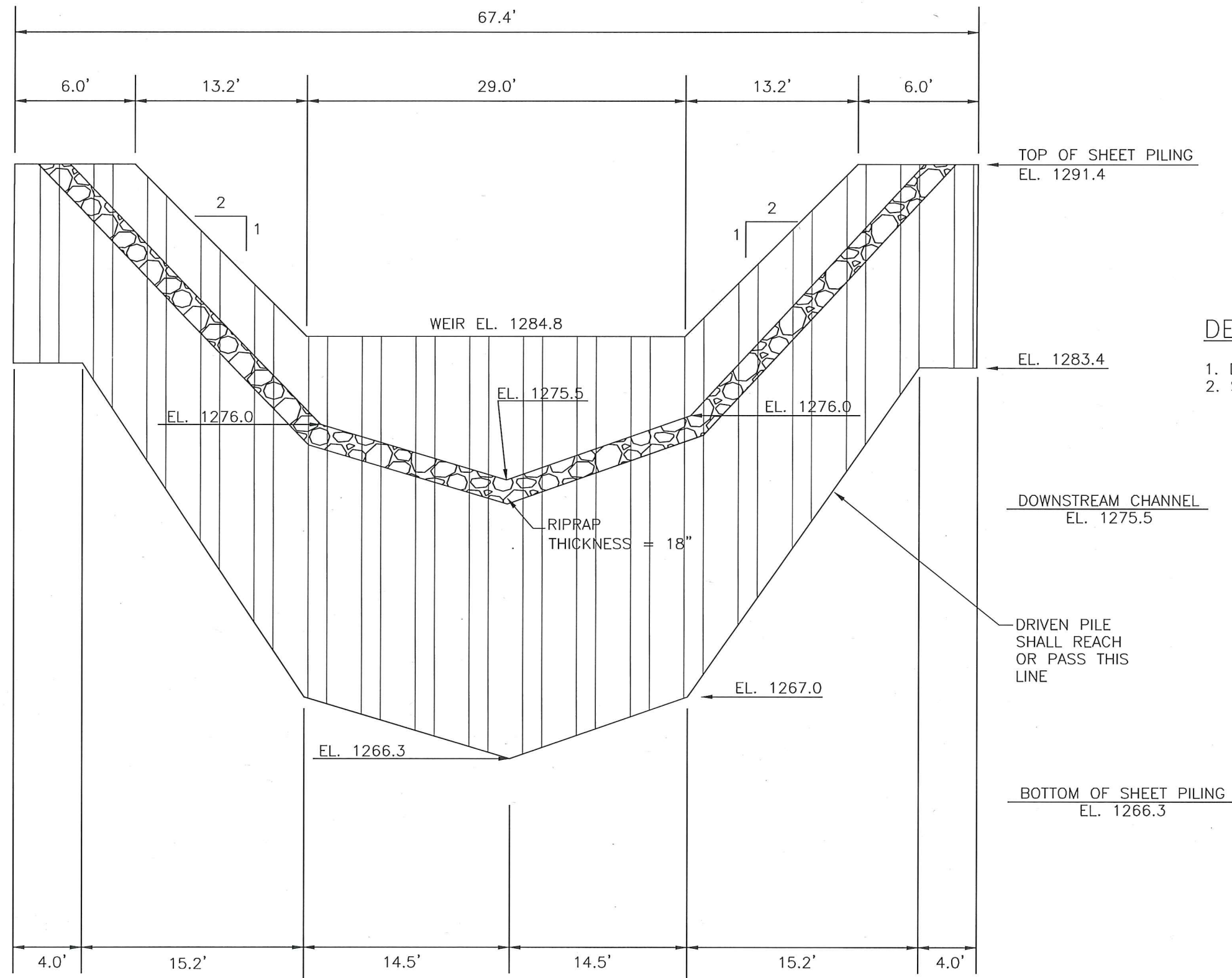
C.03

Plot Date: 3/18/2016 8:32:42 AM

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SHEET PILE STRUCTURE

NOT TO SCALE



DESIGN NOTES:

1. DESIGN SHEET PILE AREA = 996 SF
2. SHEET PILE:
 - MINIMUM SECTION MODULUS 22.0 CU. IN. PER FT. OF WALL
 - MINIMUM STEEL GRADE 50 KSI
 - MINIMUM THICKNESS 0.335 IN.
 - MEET ASTM A328, A572, OR A690 MATERIAL SPECIFICATION

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SHEET PILE STRUCTURE DETAILS

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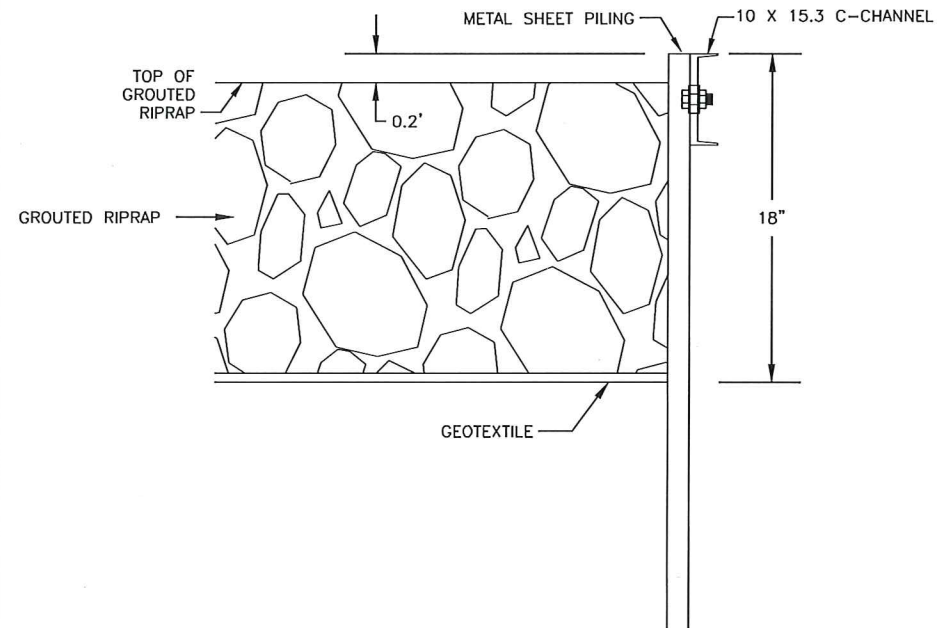
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GRouted RIPRAP DETAIL

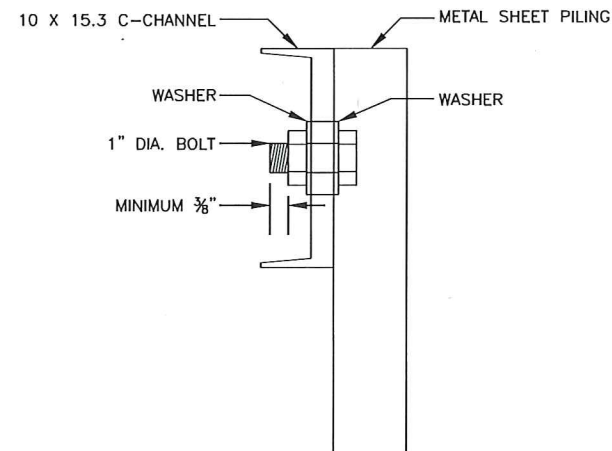
NOT TO SCALE

RIPRAP AND GROUT ON UPSTREAM SIDE OF STRUCTURE SHALL BE LEFT WITH A SMOOTH SURFACE TO ALLOW FOR FUTURE OUTFLOW MONITORING



BOLT DETAIL

NOT TO SCALE

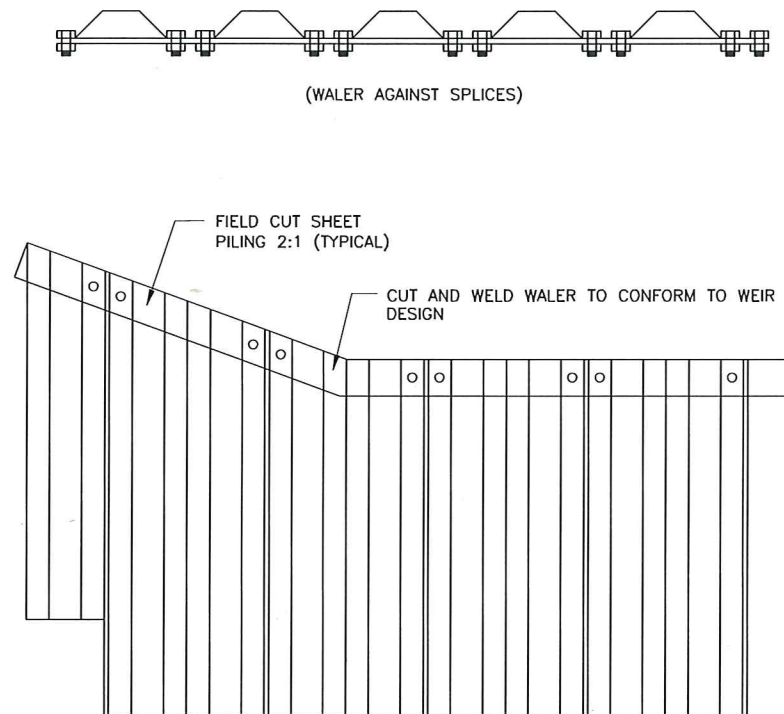


NOTES:

1. BOLTS WILL BE 1" DIA. W/2 WASHERS. BOLT WILL EXTEND AT MINIMUM $\frac{3}{8}$ " BEYOND NUT.
2. ALL HOLES WILL BE FIELD DRILLED $\frac{1}{8}$ " DIA. LARGER THAN THE BOLTS.
3. 2 BOLTS WILL BE USED WHEN THE WALER IS PLACED NEXT TO THE SPLICE. 1 BOLT WILL BE USED WHEN THE WALER IS PLACED OPPOSITE THE SPLICE.
4. WALER SHALL BE PLACED ON THE DOWNSTREAM SIDE OF WEIR.

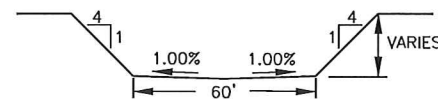
WALER BOLT PLACEMENT

NOT TO SCALE



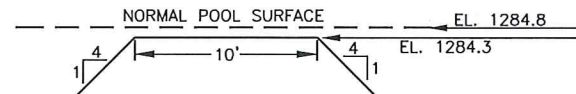
SEDIMENT BASIN DETAIL

NOT TO SCALE



SUBMERGED BERM DETAIL

NOT TO SCALE

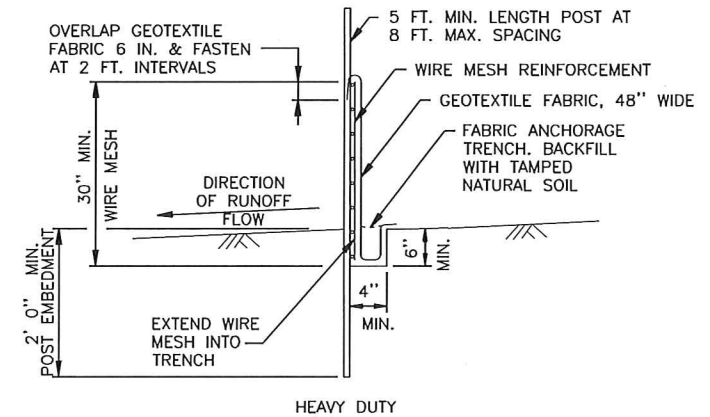
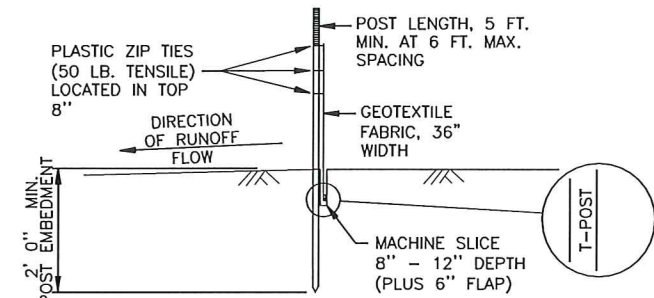


CORE TRENCH CONSTRUCTION NOTES

1. PLACE 6" TOPSOIL OVER THE EMBANKMENT
2. LENGTH OF BERM VARIES. SEE SHEET C.02 FOR APPROXIMATE LENGTHS

SILT FENCE DETAILS

TO PROTECT AREAS FROM SHEET FLOW
NOT TO SCALE



REV	DATE	DESCRIPTION



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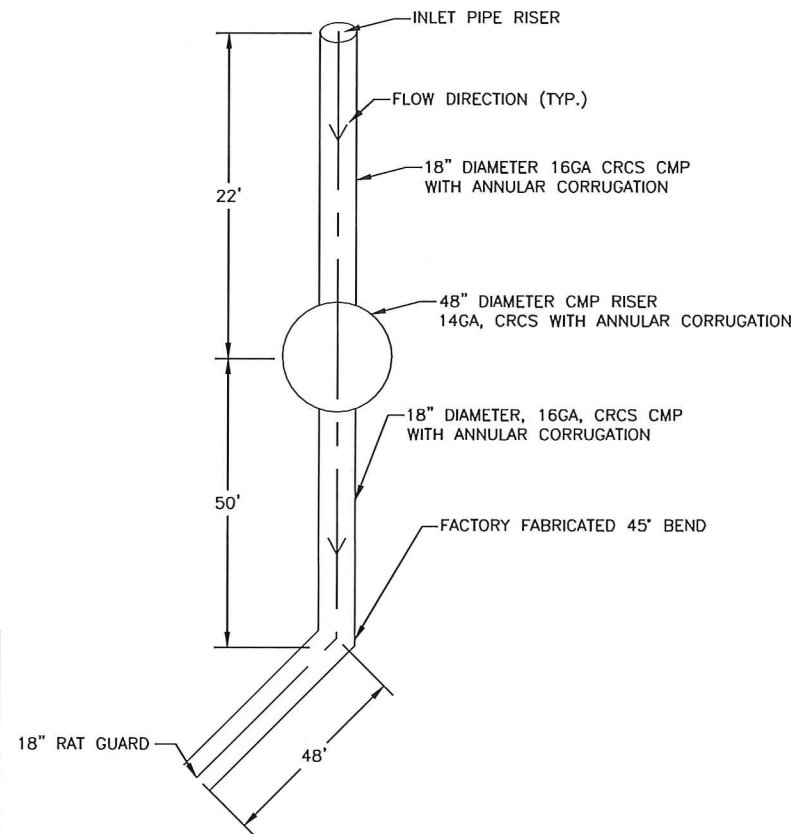
CREP WETLAND
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DETAILS

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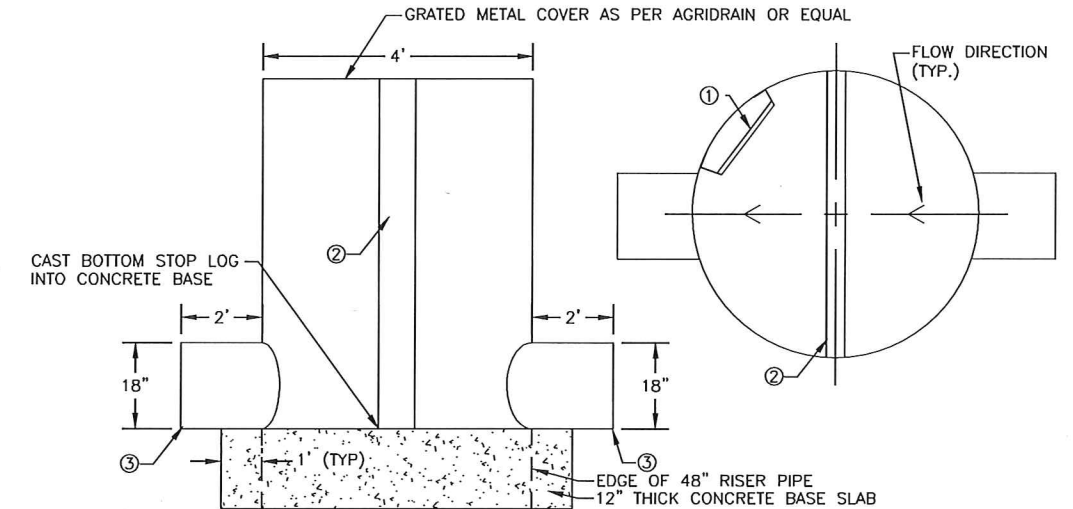
INLINE WATER CONTROL STRUCTURE PIPING PLAN NOT TO SCALE



INLINE WATER CONTROL STRUCTURE SECTION VIEW NOT TO SCALE

KEYNOTES:

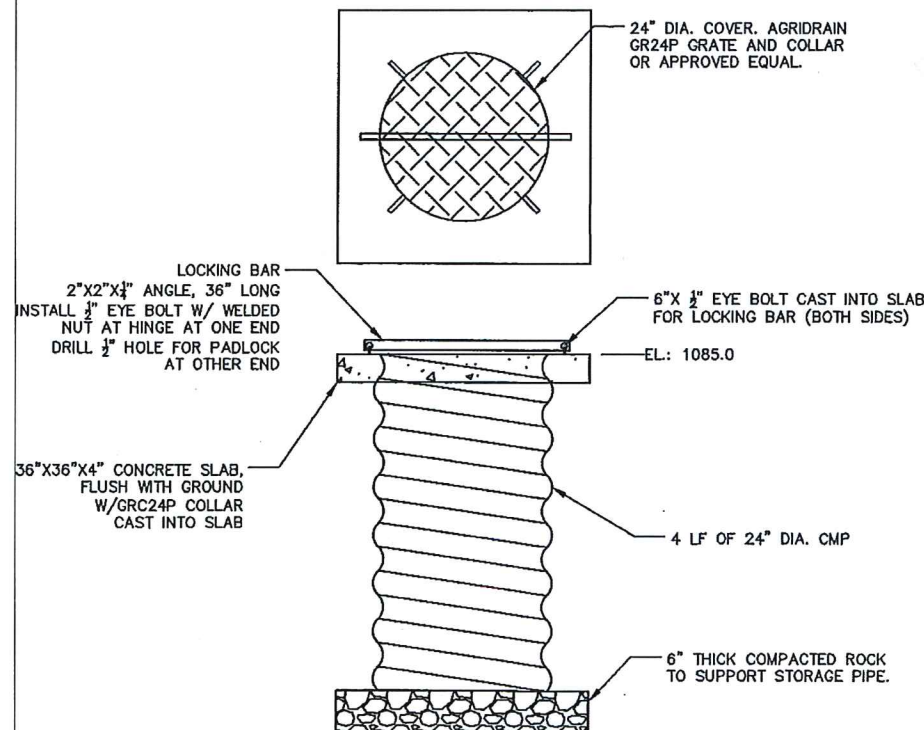
1. GALVANIZED LADDER CAPABLE OF SUPPORTING 250 LBS., 16" WIDE, 12" RUNG SPACING, RUNGS 5" FROM WALL. LADDER TO BE INSTALLED ON DOWNSTREAM SIDE OF STOPLOGS.
2. STOPLOGS & STOPLOG CHANNEL. STOPLOGS SHALL BE PVC WITH SELF SEALING GASKETS, 4" & 6" HEIGHTS. TOP OF STOPLOG HEIGHT SHALL EXTEND AT LEAST 18" ABOVE NORMAL POOL ELEVATION. BOTTOM STOP LOG SHALL BE CAST INTO CONCRETE BASE. PROVIDE TOOL FOR REMOVING AND ADJUSTING STOPLOGS WITHOUT HAVING TO ENTER STRUCTURE.
3. PROVIDE CORRUGATED COUPLING BANDS FOR CONNECTIONS BETWEEN PIPE.



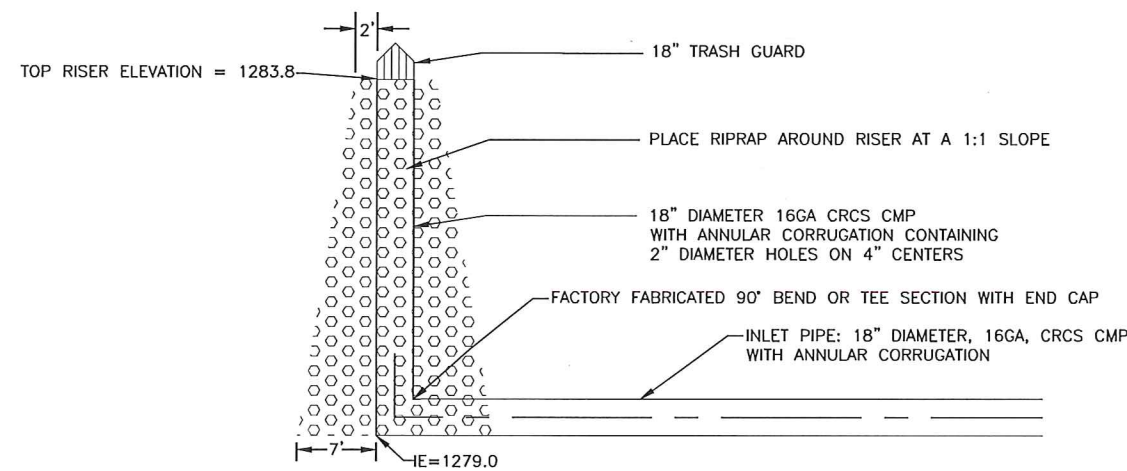
NOTES

1. F&I 3 IDENTICALLY KEYED PADLOCKS WITH 4 KEYS.

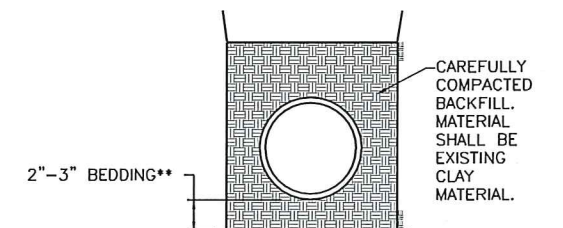
INSTALL STOP LOG STORAGE
STRUCTURE AT TOP OF DIKE
NEAR STATION 2+00



STOP LOG STORAGE STRUCTURE
NOT TO SCALE



INLET PIPE RISER
NOT TO SCALE



**EXCAVATE 2" TO 3" BELOW PIPE GRADE AND BACKFILL WITH DAMP FRIABLE SOIL FREE FROM LUMPS. RAKE AND GRADE TO PIPE GRADE BEFORE PLACING PIPE. NO COMPACTION OF BEDDING IS REQUIRED.

PIPE BEDDING CONDITIONS
NOT TO SCALE

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